

SHOWCASE PROJECT: FOREMOST FARMS—50001 READY FACILITY

SOLUTION OVERVIEW

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Foremost Farms, a milk solids processing facility owned and operated by a dairy cooperative, collectively produces more than six billion pounds of milk per year. A network of 12 plants across the Midwest processes the milk into a wide range of dairy products for consumers around the world. The business tracks performance indicators in accordance with the Global Reporting Initiative's Sustainability Reporting Guidelines, including energy and water use, as well as greenhouse gas emissions.

The Foremost Farms manufacturing plant in Plover, Wisconsin, produces a portfolio of milk solids for use in infant formula and baking products. An energy and water-intensive electro-dialysis process used at the plant generates a high volume of brine water that must be treated. Prior to joining Wisconsin Focus on Energy's Strategic Energy Management (SEM) program in 2015, the plant had pursued individual energy projects on an ad-hoc basis with limited cost/benefit analysis. The 84,000 square foot plant employs 71 people.

LOCATION

Plover, Wisconsin

SOLUTIONS

The Foremost Farms Plover facility obtained 50001 Ready recognition in July 2019 and has surpassed their 2.5% energy reduction goals by 20%. The plant began working with Energy Performance Services (EPS) and Leidos as part of the SEM program three years ago to improve its bottom line in this narrow-profit-margin industry. The plant made significant investments to install energy metering and build an Energy Management Information System (EMIS) which has already demonstrated returns. The 50001 Ready energy management system (EnMS) focuses on operational control business practices. The EMIS supports this by collecting, analyzing, displaying, and reporting actionable energy consumption and use data.

Implementing a 50001 Ready Energy Management System



Incorporating 50001 Ready into existing program offerings: EPS developed a business case and for ISO 50001 and custom EMIS adoption, which was incorporated into Focus on Energy's SEM program. The business case justified Foremost investing \$100k in metering equipment and commitment to 50001 Ready. Together, 50001 Ready based SEM and the EMIS delivered an effective approach to controlling energy use. The additional sub-metering and reporting from the EMIS accelerated the implementation.

	50001 Ready by enabling the plant to visualize, set targets, and subsequently manage energy use.
✓	Energy team: The plant's Senior Environmental Manager holds bi-weekly energy meetings to discuss impact of energy on production trends, targets, and missed opportunities. The 50001 Ready EnMS helped the team develop new data visualization tools using raw metrics captured by their EMIS.
✓	Employee awareness and accountability: By setting targets for energy consumed during downtime periods, the plant was able to build accountability amongst operators for controlling energy to set values. When energy consumption is higher than target values, as made visible in meter-produced energy reports, the plant supervisors are then able to investigate with operators and take corrective action. Over time, operators have become more adept at optimizing their processes and in reducing their energy use.
✓	Energy savings: EMIS driven analysis is reviewed during regular meetings prompting the energy team to continually track and compare energy savings over time. This consistent feedback supports the team's capacity to impact the plant's energy performance through education and by exercising accountability in energy management activities.
✓	Keys to success: To capture the plant's newly acquired energy savings strategies, an intern was hired specifically to draw up new standard operating procedures. These procedures will ensure these practices are institutionalized and sustainable as a part of daily plant operations.

OTHER BENEFITS

50001 Ready has led to overall facility improvements and increased buy-in from management by delivering a lot of reference on progress. Tracking energy performance has highlighted opportunities for process optimization and improvements in product quality. Plant operators are even engaged in a friendly competition to see who can be the most efficient.

Since implementation, EnMS 'best practices' are emerging across many business lines at the Plover facility. Newly adopted process modifications are either identified and scaled up in production or communicated to other areas. The safety team now holds safety conversations that underscore energy concerns and priorities, while the maintenance team uses metrics to prioritize equipment upgrades, as with a recent large-scale LED replacement project.

The 50001 Ready process has moved the plant toward a more open management structure. Work orders are now more likely to involve two-way conversations with the equipment operators to ensure the best course of action is taken. This dialogue-driven communication approach provides greater transparency and promotes a healthy organizational culture.

Key Takeaways

The 50001 Ready program guidance and its suite of online management tools engaged the Plover facility team at all levels—from upper management to the production floor. The integration of 50001 Ready with Focus on Energy and EMIS programs enhanced the plant's ability to establish energy targets and build accountability into daily practices. With Focus on Energy's support and the provision of specialized resources, Foremost Farms was able to develop their EMIS and achieve 50001 Ready recognition within 24 months.

In addition to reducing the facility's energy bills, the program has created greater staff awareness of energy use and the importance of energy efficiency.

processes and enabled them to reduce production losses by incorporating new best practices into operational procedures.

Annual Energy Use

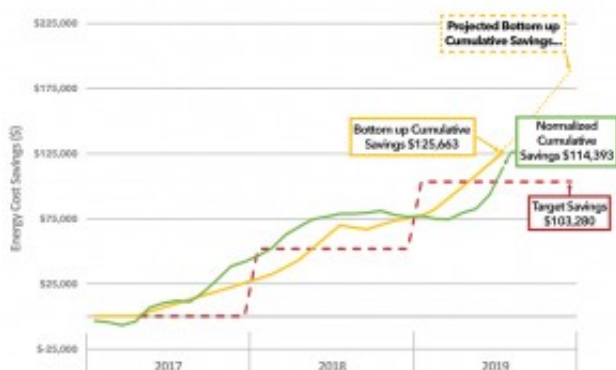
Annual Energy Cost

Energy Savings

Cost Savings



The Foremost Farms Plover team holds a plaque from Focus on Energy for completing their Strategic Energy Management project in 2019. Left to Right: Doug Bauer, Plant Manager, Ann Berres-Olivotti, Senior Manager of Technical Services, and Andrew Beese, Plant Superintendent. Photo Credit: Justin Pope/ Foremost Farms.



The Plover facility first joined the SEM program in mid- 2015. In 2017, with the implementation of 50001 Ready and Focus on Energy's EMIS along with support from EPS, Foremost Farms Plover facility surpassed their energy targets of 2.5% reductions by 20%.